



# Montana Fish, Wildlife & Parks

February 18, 1998

1420 East 6th Ave.  
P.O. Box 200701  
Helena, MT 59620-0701

Environmental Quality Council  
Montana Department of Environmental Quality  
Montana Department of Fish, Wildlife and Parks  
Fisheries Division  
Endangered Species Coordinator  
Billings Office  
Montana State Library  
MT Environmental Information Center  
Montana Audubon Council  
Mineral County Conservation District  
U.S. Army Corp of Engineers, Helena  
U.S. Fish and Wildlife Service, Helena  
Montana State Library, Helena  
State Historic Preservation Office, Helena  
Ellis-King-Hawks Ditch Co., Elaine Allestad, Manager  
Joseph Urbani and Associates, Inc.

Ladies and Gentlemen:

Please find enclosed an Environmental Assessment prepared for a Future Fisheries Project tentatively planned to improve an irrigation diversion structure on the Boulder River approximately 5 miles south of Big Timber.

Please submit any comments that you have by 5 P.M., March 19, 1998 to the Department of Fish, Wildlife and Parks in Helena at the address listed above. If you have any questions, feel free to contact me at (406) 444-2432.

Sincerely,

Mark Lere, Program Officer  
Habitat Protection Bureau  
Fisheries Division

*Sweet grass*

ENVIRONMENTAL ASSESSMENT  
Fisheries Division  
Montana Fish, Wildlife and Parks  
Ellis King Hawks Headgate Improvement Project on the Boulder River

General Purpose: The 1995 Montana Legislature enacted statute 87-1-272 through 273 which directs the Department to administer a Future Fisheries Improvement Program. The program involves physical projects to restore degraded fish habitat in rivers and lakes for the purposes of improving wild fisheries. The legislature established an earmarked funding account to help accomplish this goal. This project is being proposed to alleviate the need for annual or bi-annual bulldozing in the river bed of the Boulder River to obtain water for the Ellis-King-Hawks Ditch Company.

I. Location of Project: This project will be conducted on the Boulder River within Township 1 North, Range 14 East, Section 34 in Sweet Grass County.

II. Need for the Project: Department Goal A indicates that a Fisheries Division objective is to "protect existing aquatic habitat and improve degraded stream systems for the welfare of healthy fish populations and other wildlife species and for public enjoyment and use." The Future Fisheries Improvement Program is a tool to help achieve that objective.

Currently, the Ellis-King-Hawks Ditch Company must bulldoze the river bed of the Boulder River annually or bi-annually immediately downstream of their headgate to insure adequate water for the ditch users. The gravel berm that is created acts as both a barrier to migrating fish and a navigation obstacle. The berm's yearly creation also increases the sediment load and destabilizes the bed of the Boulder River. The proposal to install a new headgate and three low elevation rock structures to maintain the grade would eliminate the need for annually bulldozing a gravel berm.

III. Scope of the Project: The proposal calls for replacing the old headgate with a new structure that would be located about one half foot lower in elevation and installing three rock structures spaced approximately 200 feet apart. The top of each upstream pointing V-structure would be approximately 1.5 feet above the existing stream bed. The rock structures would act to stabilize the stream bed and provide a channel elevation to insure adequate water to the headgate. The three tiered structure would allow for safe boat navigation and provide for fish passage. The project is expected to cost \$75,438.47. Of this total, the Future Fisheries Improvement Program would be contributing up to \$10,000.00.

IV. Environmental Impact Checklist:

Please see attached checklist.

V. Explanation of Impacts to the Physical Environment

1. Terrestrial and aquatic life and habitats.

Fishery benefits would include improved water quality and channel stability, eased fish passage, and the creation of pool habitat for holding water. Keeping heavy machinery from annually entering the channel will maintain the integrity of the stream bed and consequently improve habitat for aquatic invertebrates and fishes. The proposed project would have no impact on terrestrial habitat.

2. Water quantity, quality and distribution.

Short term increases in turbidity will occur during project construction. To minimize turbidity, construction will occur during a low flow period and operation of equipment in the stream channel will be minimized to the extent practicable. A permit for a short term exemption from turbidity will be obtained from the Water Quality Bureau and a 310 permit will be obtained from the local Conservation District. In the long term, turbidity and sediment contributions to downstream waters should be reduced by eliminating the need to annually bulldoze a gravel berm within the active channel.

3. Geology and soil quality, stability and moisture.

No effects on geology and soils are expected above the high water mark. Below the high water mark, the project is expected to stabilize the stream channel. Rock structures, if improperly installed, can reduce channel capacity and cause channel over-widening. However, the proposal calls for low elevation structures placed in a three tiered design, with each structure designed as a upstream pointed "V". This design is expected to minimize the possibility of channel over-widening following structure installation.

5. Aesthetics.

Aesthetics will be enhanced by eliminating the annual construction of an in-channel gravel berm, resulting in a more natural stream environment.

9. Historic and archaeological sites.

The proposed project will likely require an individual Army Corp of Engineers (COE) 404 permit. Therefore, the State Historic Preservation Office has been contacted to determine the need for compliance with the federal historic preservation regulations. The project will not begin until a cultural clearance is granted.

VI. Explanation of Impacts on the Human Environment.

7. Access to & quality of recreational activities.

Boat navigation would be improved by eliminating the need for annually bulldozing a gravel berm in the active stream channel. The three tiered design of the proposed rock structures would provide safe navigation for boats.

VII. Discussion and Evaluation of Reasonable Alternatives.

1. No Action Alternative

If no action is taken, the stream bed will continue to be bulldozed into a gravel berm on an annual basis. This activity will continue to de-stabilize the stream bed, contribute to turbidity, interfere with fish passage and block navigation by boats.

2. The Proposed Alternative

The proposed alternative would eliminate the need for annually bulldozing a gravel berm. Elimination of this activity would improve channel stability and water quality, augment fish passage, create pool habitat and insure safe boat navigation.

VIII. Environmental Assessment Conclusion Section

1. Is an EIS required? No.

We conclude from this review that the proposed activities will have a positive impact on the physical and human environment.

2. Level of public involvement.

The proposed project was reviewed and supported by the public review panel of the Future Fisheries Improvement program. The proposed project was also reviewed and approved by the Fish, Wildlife and Parks Commission. The Environmental Assessment (EA) is being distributed to all individuals and groups listed on the cover letter. The EA will be published on the Montana Electronic Bulletin Board.

3. Duration of comment period?

Public comment will be accepted through 5 P.M. on March 19, 1998.

4. Person responsible for preparing the EA.

Mark Lere, Program Officer  
Habitat Protection Bureau  
Fisheries Division  
Montana Department of Fish, Wildlife and Parks  
1420 East 6th Avenue  
Helena, MT 59620

Telephone: (406) 444-2432

**MONTANA DEPARTMENT OF FISH, WILDLIFE AND PARKS**  
1420 E 6th Ave, PO BOX 200701, Helena, MT 59620-0701  
(406) 444-2535

**ENVIRONMENTAL ASSESSMENT**

Project Title Ellis King Hawks Headgate Improvement Project

Division/Bureau Fisheries Division -Future Fisheries Improvement

Description of Project The proposal calls for replacing an old headgate with a new structure that would be located about one half foot lower in elevation and installing three rock structures spaced approximately 200 feet apart. This proposed project would act to alleviate the need for annual or bi-annual bulldozing in the bed of the Boulder River to obtain water for the Ellis-King-Hawks Ditch Company.

**POTENTIAL IMPACT ON PHYSICAL ENVIRONMENT**

	MAJOR	MODERATE	MINOR	NONE	UNKNOWN	COMMENTS ON ATTACHED PAGES
1. Terrestrial & aquatic life and habitats		X				X
2. Water quality, quantity & distribution			X			X
3. Geology & soil quality, stability & moisture			X			X
4. Vegetation cover, quantity & quality				X		
5. Aesthetics			X			X
6. Air quality				X		
7. Unique, endangered, fragile, or limited environmental resources				X		
8. Demands on environmental resources of land, water, air & energy				X		
9. Historical & archaeological sites				X		X

POTENTIAL IMPACTS ON THE HUMAN ENVIRONMENT

	MAJOR	MODERATE	MINOR	NONE	UNKNOWN	COMMENTS ON ATTACHED PAGES
1. Social structures & mores				X		
2. Cultural uniqueness & diversity				X		
3. Local & state tax base & tax revenue				X		
4. Agricultural or industrial production				X		
5. Human health				X		
6. Quantity & distribution of community & personal income				X		
7. Access to & quality of recreational and wilderness activities			X			X
8. Quantity & distribution of employment				X		
9. Distribution & density of population & housing				X		
10. Demands for government services				X		
11. Industrial & commercial activity				X		
12. Demands for energy				X		
13. Locally adopted environmental plans & goals				X		
14. Transportation networks & traffic flows				X		

Other groups or agencies contacted or which may have overlapping

jurisdiction Sweet Grass County Conservation District, NRCS, Army Corp  
of Engineers, Ellis-King-Hawks Ditch Co.

Individuals or groups contributing to this EA Joseph Urbani and  
Associates

Recommendation concerning preparation of EIS No EIS required.

EA prepared by : Mark Lere

Date: February 18, 1998